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**IN THE CLAIMS**

Please rewrite Claims 1, 2 and 9 as set forth in 37 C.F.R. § 1.121(c)(1)(i). A copy of all amended claims showing the additions and deletions in accordance with 37 C.F.R. § 1.121(c)(ii) is attached hereto.

1. (Amended) A furnace for cracking hydrocarbon feed to produce olefins, said furnace comprising:
  - (a) at least one fired radiant chamber, wherein said radiant chamber is divided into at least two separate independent radiant zones by a fired radiant chamber dividing means;
  - (b) at least one radiant burner in each said zone of said fired radiant chamber;
  - (c) a convection chamber in direct communication with each said fired radiant chamber;
  - (d) at least one independent process coil for each said separate independent radiant zone, wherein each said independent process coil extends through at least a portion of said convection chamber and extends into one of said separate and independent radiant zones before exiting said furnace;
  - (e) a flue for discharging flue gas located at the top of said convection chamber of said furnace; and
  - (f) a means for independently controlling the radiant burner in each said separate independent radiant zone.

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2. (Amended) A furnace for cracking hydrocarbon feed to produce olefins, said furnace comprising:

- (a) at least two fired radiant chambers, wherein each said radiant chamber is divided into at least two separate independent radiant zones by a fired radiant chamber dividing means;
- (b) at least one radiant burner in each of said zones of said fired radiant chambers;
- (c) a convection chamber in direct communication with each said fired radiant chamber;
- (d) at least one independent process coil for each said separate independent radiant zone, wherein each said process coil extends through at least a portion of said convection chamber and extends into one of said separate and independent radiant zones before exiting said furnace;
- (e) a flue for discharging flue gas located at the top of each said convection chamber of said furnace; and
- (f) a means for independently controlling the radiant burner in each said separate independent radiant zone.

9. (Amended) An improved pyrolysis cracking furnace having a radiant cracking chamber wherein said improvement comprises dividing said radiant cracking chamber into at least two separate and independent radiant cracking zones by providing a dividing wall in said radiant cracking chamber to separate said radiant cracking chamber into at least two separate and independent radiant cracking zone, and separately and